
7. HTML

Program Name: HTML.java

Input File: html.dat

Bobby is the UT ACM webmaster, and he has made an amazing website for this year's students. Joey, the Texas A&M ACM webmaster, is lazy and decides to just copy Bobby's website, and change the text in certain places.

Bobby wants to prove that Joey did this but has little coding experience outside of HTML. As the UT ACM President, your job is to write a program for Bobby to determine whether two given HTML pages have the same structure. Two pages have the same structure if the structure of their tags are the same. Plain text is ignored when making this determination.

You can assume there are no escaped characters, and any given HTML element will not have any extraneous attributes. A tag is simply "<" or "</", followed by one or more lowercase letters, followed by ">" (e.g., <div> and </div>). You may also assume the HTML will not have any broken or incomplete tags.

Input

The first line of input consists of a single integer, n , indicating the number of test cases.

Each test case consists of two lines, which are the two pages requiring comparison. The first line is Bobby's code, and the second line is the page he thinks is copied from his code.

Output

For each pair of pages, output `same` if the pages have the same structure, or `different` if the pages have a different structure.

Constraints

$1 \leq n \leq 10$

$1 \leq \text{length of any page} \leq 100 \text{ characters}$

Example Input File

4

```
<div>hi</div>
<div>hi</div>
<div>hi</div>
<div>hello</div>
<div>hi</div>
<p>hi</p>
<p><b>hello</b> world <b>foobar</b></p>
<p><b>hello</b> world <i>foobar</i></p>
```

Example Output to Screen

```
same
same
different
different
```

Explanation of sample cases

In the first case, both pages are exactly the same, so the output is `same`.

In the second case, both pages just have a single div element. The plain text inside the div is ignored. Thus the output is `same`.

In the third case, the elements are different. The first page has a div, while the second has a paragraph. Thus, the output is `different` (Note: we still ignore the plain text).

In the fourth case, both HTML pages consist of a paragraph with two child elements. The first child of both is a bold tag, which maintains our match. However, the second child differs; one is a bold tag, and the other is an italics tag. Thus, the output is `different`.